WHAT IS CLAIMED IS:

1. A method of controlling power provided from a power source to a plurality of direct current traction motors providing an individual chopper circuit for each traction motor.

2. A method of controlling power provided from a direct current power source to a plurality of direct current traction motors comprising:
   a) determining the power requirement for each motor at each of a number of successive time intervals;
   b) determining the necessary effective voltage and pulse width to achieve the desired power for each motor;
   c) sequentially pulsing power to each said motor for a duration necessary to achieve said power requirement at said time interval.

3. The method of claim 2 wherein said sequential power pulses do not overlap until the motor speed has increased to a given level.

4. The method of claim 2 wherein power is cut and then restored to a first traction motor, while maintaining constant power to the remaining motors, to correct loss of traction on an individual motor.

5. The method of claim 2 wherein over-current protection for each individually controlled direct current motor is provided.

6. The method of claim 2 wherein power is also provided to all motors constantly at reduced voltage during selected intervals.

7. Apparatus for controlling power provided from a direct current power source to a plurality of direct current traction motors comprising:
   a) means for determining the power requirement for each motor at each of a number of successive time intervals;
   b) means for determining the necessary voltage and pulse width to achieve the desired power for each motor; and

c) means for sequentially pulsing power to each said motor for a duration necessary to achieve said power requirement at said time interval.

8. The apparatus of claim 7 wherein said means for sequentially pulsing power to each said motor comprises a pulse width modulation device.

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9. The apparatus of claim 8 wherein said means for sequentially pulsing power to each said motor comprises a clock.

10. The apparatus of claim 7 wherein said means for sequentially pulsing power to each said motor comprises a plurality of drive switches.

11. The apparatus of claim 7 wherein said means for determining the power requirement for each motor at each of a number of successive time intervals and said means for determining the necessary voltage and pulse width to achieve the desired power for each motor comprise a programmable logic controller.

12. The apparatus of claim 7 wherein said means for determining the power requirement for each motor at each of a number of successive time intervals comprises a throttle.

13. The apparatus of claim 7 wherein said means for determining the power requirement of the motors at each of a number of successive time intervals comprises a power source current sensing device and a power source voltage sensing device.

14. The apparatus of claim 7 wherein said means for determining the power requirement for each motor at each of a number of successive time intervals comprises a traction motor current sensing device.

15. The apparatus of claim 7 wherein said means for determining the power requirement for each motor at each of a number of successive time intervals comprises a ramping device.

16. The apparatus of claim 7 wherein said means for determining the power requirement for each motor at each of a number of successive time intervals comprises a detection scaling device.

17. The apparatus of claim 7 wherein said means for determining the power requirement for each motor at each of a number of successive time intervals comprises a derate evaluation logic device.

18. The apparatus of claim 10 wherein said drive switches are insulated gate bipolar transistors.

19. The apparatus of claim 10 further comprising latching circuit means adapted to interrupt the drive to said drive switch after said drive switch has failed to fully saturate to thereby prevent operating into a short circuit.